

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

**Ex parte** BERNARD DOV GELLER,  
MICHAEL JAMES LIBERATORE,  
ATTIGANAL NARAYANSWAMY SREERAM,  
BARRY JAY THALER  
and ALY EID FATHY



Appeal No. 2002-2083  
Application No. 09/430,642

ON BRIEF

Before BARRETT, FLEMING, and DIXON, **Administrative Patent Judges**.

DIXON, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 6-10, which are all of the claims pending in this application.

We AFFIRM-IN-PART.

## BACKGROUND

Appellants' invention relates to high performance embedded RF filters. An understanding of the invention can be derived from a reading of exemplary claim 9, which is reproduced below.

9. An embedded coupled shaped dielectric waveguide resonator comprising

a metal support substrate,

a first green tape stack adhered to the support substrate,

cavity openings in the first green tape stack to provide walls and coupling apertures in the green tape stack,

a conductive layer over said first green tape stack, and

a second green tape stack mounted on said conductive layer.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Piloto et al. (Piloto)	5,382,931	Jan. 17, 1995
Kubota et al. (Kubota)	6,137,384	Oct. 24, 2000 (Filed Feb. 19, 1999)

Claims 6, 8, and 9 stand rejected under 35 U.S.C. § 102 as being anticipated by Piloto. Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over Piloto. Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Piloto in view of Kubota.

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Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 18, mailed March 25, 2002) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No. 17, filed Feb. 6, 2002) for the appellants' arguments thereagainst.

### **OPINION**

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

At the outset, we note that appellants have elected to group all the pending claims as standing or falling together. (See brief at page 3.) Yet, appellants have provided separate arguments for dependent claims 7 and 10. In fairness to appellants, we will address these two claims separately from independent claim 9.

#### **35 U.S.C. § 102**

To the extent that the rejection may be based on the principles of inherency, we note that our reviewing court has set out clear standards for a showing of inherency, which we find have been attained in the instant case. To establish inherency, the

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extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." **In re Robertson**, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted).

Appellants argue that the metal support substrate reduces the shrinkage of the green tape in the x- and y-dimensions leaving only the shrinkage in the z-dimension. (See brief at pages 4-6.) Appellants argue that the area set aside on the board may be smaller so that the boards are smaller and lighter. (See brief at page 5.) Appellants argue that the ceramic layers of Piloto are not adhered to a metal support substrate and that Piloto does not disclose a metal support plate [substrate] at all. (See brief at page 6.) The examiner maintains that Piloto teaches the use of a conductive material deposited on the top and bottom surface of the stacked layers. (See answer at pages 4 and 6.) The examiner maintains that the layers or plating with conductive material would have inherently provided some support for the structure. (See answer at page 4.) We agree with the examiner that even though the metal layer may be thin, there is an inherent additional support (as broadly claimed) that is provided by the deposition of metal and that the metal would be adhered in some manner to the stacked layers. Piloto further teaches that:

A conductive material 70, preferably gold, is deposited on a top surface and a bottom surface of the stacked contiguous layers, which in the configuration illustrated in **FIG. 4** are buried layers in the structure 44. This conductor 70 covers at least the area bounded by the vias, i.e., the longitudinal portion 30 of the waveguide filter 10. Consequently, the conductor forms the horizontal sides of a waveguide filter 10 in the x-y directions. The stack of plated contiguous layers 46 resembles a rectangular block having gold plating on the top and bottom surfaces, which may or may not be buried within the structure 44 illustrated in **FIG. 4**, as explained below. [Emphasis added.] [Piloto at column 8 lines 24-37.]

Therefore, the conductive layer would separate two stacks, and we find that Piloto teaches the use of a conductive layer over the a first stack and a second stack mounted on the conductive layer, as claimed.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Therefore, we look to the express language of independent claim 9 and the examiner notes that the claim is directed to the final product/apparatus rather than a process of manufacturing and that Piloto teaches the claimed layered material. (See answer at page 4.) We agree with the examiner. Additionally, we find that the term "support substrate" has not been specifically defined in the specification. As our reviewing court states, "[t]he terms used in the claims bear

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a 'heavy presumption' that they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art." **Texas Digital Sys., Inc. v. Telegenix, Inc.**, 308 F.3d 1193, 1202, 64 USPQ2d 1812, 1817 (Fed. Cir. 2002) **cert. denied**, 123 S.Ct. 2230 (2003). We find that the support substrate merely is required to add support to that which it is connected to, rather than requiring that the other layers are formed upon the support substrate during manufacture. We find that a "substrate" is "an underlying layer." (The American Heritage® Dictionary of the English Language, Third Edition copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation.) Here, we find that the metal (gold) material in Piloto would provide some albeit minimal support and would broadly be an underlying layer in the final product.

Appellants argue that the gold layer in Piloto does not prevent shrinkage in any direction of the green tape. (See brief at page 7.) While we agree with appellants that Piloto does not achieve this desired result, we find no limitation, expressed or implied, in the instant claimed invention to support this argument. Therefore, this argument is not persuasive. Additionally, we find no discussion in appellants' specification that the metal support substrate solves the shrinkage problem, but we do find that the

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Background of the Invention at page 2 states that "bonding glass reduces the shrinkage of the green tape" which appears to be a recognition in the prior art that the adhesion rather than the substrate alone solves the shrinkage problem.

We are not persuaded by appellants' arguments that the Section 102 rejection of independent claim 9 on appeal is in error.

We thus sustain the rejection of independent claim 9 under 35 U.S.C. § 102 as being anticipated by Piloto. Since the examiner has established a *prima facie* case of anticipation, and appellants have not adequately rebutted this *prima facie* case of anticipation, we will sustain the examiner's rejection of independent claim 9 and its dependent claims 6 and 8.

### **35 U.S.C. § 103**

In determining novelty, the first inquiry must be into exactly what the claims define. **In re Wilder**, 429 F.2d 447, 450, 166 USPQ 545, 548 (CCPA 1970). Similarly, a Section 103 analysis begins with a key legal question -- what is the invention claimed? **Panduit Corp. v. Dennison Mfg. Co.**, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987).

"Deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense.'" **In re Zurko**, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697(Fed. Cir. 2001). Furthermore, "the Board's

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findings must extend to all material facts and must be documented on the record, lest the 'haze of so-called expertise' acquire insulation from accountability." **In re Lee**, 277 F.3d 1338, 1345, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002). Here, we find the Examiner's arguments to be supported merely by the Examiner's own expertise instead of the evidence of record and the teachings of prior art which are required in order to establish a ***prima facie*** case of obviousness.

With respect to dependent claim 10, the examiner maintains that it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the well-known copper clad molybdenum in place of the bottom conductive material. (See brief at page 4.) It is our view, that the examiner has provided no evidence to support the examiner's proposed modification of the teachings of Piloto. In order for us to sustain the Examiner's rejection under 35 U.S.C. § 103, we would need to resort to speculation or unfounded assumptions or rationales to supply deficiencies in the factual basis of the rejection before us. **In re Warner**, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), **cert. denied**, 389 U.S. 1057 (1968), **rehearing denied**, 390 U.S. 1000 (1968). Therefore, we will not sustain the examiner rejection of dependent claim 10 under 35 U.S.C. § 103.

With respect to dependent claim 7, the examiner maintains that Piloto does not teach the use of a probe and connector to couple the striplines or that the stripline is on the surface of the second green tape stack. The examiner further maintains that the placement of the stripline placement would have been "a mere art-recognized functionally equivalent location for the stripline." (See answer at page 5.) Appellants argue that there the examiner has not shown a convincing line of reasoning for combining the teachings of Kubota with those of Piloto since Kubota is not directed to a dielectric waveguide. (See brief at pages 9-10.) We agree with appellants that the examiner has not shown why it would have been obvious to one of ordinary skill in the art at the time of the invention to look to the teachings of Kubota to remedy the deficiency in the teachings of Piloto. Therefore, we will not sustain the rejection of dependent claim 7.

### **CONCLUSION**

To summarize, the decision of the examiner to reject claims 6, 8, and 9 under 35 U.S.C. § 102 is affirmed, and the decision of the examiner to reject claims 7 and 10 under 35 U.S.C. § 103 is reversed.

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No time period for taking any subsequent action in connection with this appeal  
may be extended under 37 CFR § 1.136(a).

**AFFIRM-IN-PART**

*Lee E. Barrett*  
LEE E. BARRETT  
Administrative Patent Judge

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